Value and Benefits of Technical Documentation Services. An Analysis of Corporate Websites

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Tässä pro gradu -tutkielmassa tarkastellaan teknistä viestintää yritysten verkkosivujen avulla. Tutkimuksen tarkoituksena on selvittää, miten teknisen viestinnän alalla toimivat palveluyritykset tuovat verkkosivuillaan esille teknisen dokumentoinnin arvoa ja hyötyjä. Lisäksi tutkimuksessa tarkastellaan, miten näkyvästi palveluyritykset tuovat esille teknisen dokumentoinnin palveluitaan.

Tutkimuksen teoreettinen viitekehys koostuu kahdesta eri osasta. Ensimmäisessä osassa käsitellään teknisen viestinnän statusta sekä maailmanlaajuisesti että Suomen näkökulmasta. Teknisen viestinnän ala on edelleen Suomessa suhteellisen tuntematon, mikä saattaa tuoda haasteita alalla toimivien yritysten markkinointiin. Toisessa osassa puolestaan pohditaan teknisen viestinnän arvoa, hyötyä ja sitä, millaista on laadukas tekninen dokumentointi. Vaikka yleinen käsitys on, että tekninen dokumentointi on yritykselle vain menoerä, voidaan sen todeta tuovan rahallista säästöä ja jopa tuottoa yritykselle. Rahallisen ja muun hyödyn avaintekijänä on laadukkaan sisällön tuottaminen, ja teknisellä viestinnällä onkin useita laadullisia ulottuvuuksia.

Tutkimuksen aineistona käytetään viiden Suomessa toimivan teknisen viestinnän alan yrityksen englanninkielisiä verkkosivuja. Tutkimukseen valitut yritykset ovat alan merkittävimpiä toimijoita Suomessa. Mukaan otettiin ne verkkosivujen osiot, jotka käsittelevät teknistä dokumentointia. Tutkimusmetodina käytetään laadullista sisällönanalyysia, ja tarkempi lähestymistapa on teoriaohjaava analyysi. Analyysissa tarkastellaan ensin dokumentointipalveluiden asemaa yritysten verkkosivuilla ja sen jälkeen verkkosivujen sisältöä.

Tutkimus osoittaa, että yritykset tuovat esille hyvin samantyyppisiä sisältöjä. Sen sijaan teknisen dokumentoinnin palveluista kertovan sisällön määrässä on suuresti vaihtelua. Lisäksi yritykset käyttävät vaihtelevia termejä viitatessaan teknisen dokumentoinnin palveluihinsa. Analyysin perusteella yritykset perustelevat dokumentoinnin hyötyjä kustannussäästöillä, turvallisuudella, palvelujen laadukkuudella, ammattimaisuudella ja asiakastyytyväisyydellä.

Avainsanat: tekninen dokumentointi, tekninen viestintä, sisällönanalyysi

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1. Introduction

If a company means to be successful, it is vital for it to market its product or service to the customer in the right way to attract buyer. First, the customer needs to know that the product or service exists to be able to buy or use it. Second, the customer needs to be convinced that their purchase is somehow useful or necessary. The customer is not necessarily an individual consumer, for often a business also needs the services of another business for operational reasons, for example to take care of accounting or marketing. Sometimes it is easy to see the benefits and value of a service, and sometimes it might even be self-evident for the client company to use the services of another company: a professional accountancy firm may be needed to audit the finances of a company. The client company might not have the expertise or the resources to do this themselves, so they rely on the other company to step in. In other cases, the services are optional, and the client company must decide whether or not to invest in them. For instance, human resources consulting and marketing can be outsourced, if the company sees that buying these services is a valuable and beneficial alternative.

This study focuses on companies operating in the field of technical communication that offer business-to-business services. In this study, the term *technical communication* is used when referring to the field in general, including both professional and academic contexts. When referring to the different areas of work of a technical communicator, the term *technical documentation* is used. Moreover, *technical documentation* refers to the services the above-mentioned companies provide. These services include coordination and management of the documentation process, information and terminology management, and designing and creating technical documentation deliverables, such as user guides, training material, marketing material, technical illustrations. The companies operating in the field of technical communication may also offer services, as for instance proofreading, translation and localisation.

Compared with other fields such as teaching, medicine or law, technical communication is a relatively new field, and it has struggled with establishing itself as a valued and legitimate profession

(Mead 1998, 353). Moreover, there has even been debate about whether technical communication is a profession at all (Spilka 2002, 98-99). This lack of status may bring challenges for companies offering technical documentation services. As Henning and Bemer (2016, 316) point out, when nonpractitioners seek the services of those in a profession, they believe the professionals to have power and legitimacy, and to be better qualified to direct the actions of the nonpractitioners. To give a concrete example: when a company has legal issues, it contacts a legal professional (a lawyer or a legal office). If technical communication lacks this kind of strong status, the link between professionals and customers is not as straightforward as in the example above. I assume that this might make it more challenging for technical communication companies to convince their customers of their expertise and professionalism. If customers do not see how technical documentation services add value to their own business, they will probably not be prepared to invest in such services.

For the customer, be it a person or a company, the corporate website is often the first place to search for information and to learn about the services the company provides. Thus, the corporate website functions as a key link between the company and the customer. Based on the information provided on the website, the customer may decide whether or not the service is worth investing in. Moreover, the website should be both informative and concise enough so that the customer has access to relevant information but is not overwhelmed by it.

The first research question of this thesis is: What types of arguments do technical communication companies use on their websites when marketing their technical documentation services to customers? The study thus aims to examine ways in which companies present the value and benefits of their services to their customers. Based on my information retrieval no similar study on the arguments presented by the companies themselves seems to have been conducted at least in Finland. The second research question is: How visibly are the documentation services presented on the websites? This question examines how prominently the information on technical documentation services is laid out.

Considering the problems with legitimacy and status of technical communication (Kynell-Hunt and Savage 2003; Carliner 2012), it would be reasonable to expect that companies feel the need to pinpoint the importance of technical documentation to their customers. My hypothesis thus is that the companies wish to show the value and benefits of professional technical documentation quite prominently. This would reflect the discussion in the field of technical communication and help the industry to establish its professional status.

The theoretical framework for this study consists of literature and research on the status of technical communication as well as on its value and benefits. Status and professionalism have been widely discussed in literature throughout the history of technical communication (see for example Kynell-Hunt and Savage 2003, 2004), and no wonder, for the field has experienced significant changes over the past decades. Even the views on naming and defining the field and pinpointing its essentials are mixed (Spilka 2002; Rude 2009). Moreover, neither the professionals or the academe are unanimous on certifications and whether or not they are needed to bring legitimacy to technical communication (Carliner 2012, 60).

Even though the USA is a pioneering country in the field (Suojanen 2000, 1), there are also significant professional organisations, research projects and businesses in Europe as well. Since the companies selected for this study operate in Finland, I will also discuss the field of technical communication in Finland. In Finland, technical communication is a newer field than in the USA, for it emerged in the 1980s and 1990s (Suojanen 2000, 1). The status of the field in Finland has been studied, but previous research on status has focused on the experiences of technical communicators themselves (Korhonen 2007; Virtaluoto 2015). Virtaluoto (2015, 18) states that experiences of Finnish technical communicators are similar to those presented in North American studies, which have shown that even today's professionals feel that their work is not always recognised and that they experience lack of visibility in their workspace (Rice-Bailey 2016, 231).

The material for this study consists of the websites of five companies that offer technical documentation services. The selected companies operate in Finland but offer their services for a global or English-speaking audience. Some companies also offer engineering services, and some for example translation and localisation services. The selected companies are central operators in the field of technical communication in Finland. I consulted the chair of the Finnish Technical Communications Society (FTCS), who agreed with me on the list of companies, which confirmed my choice. The study focuses on the websites' textual content that is related to technical documentation, although I will also examine how prominently the information on technical documentation services is provided in the overall structure of the website. The aim of this study is not to perform a usability analysis, to analyse the layout of the corporate websites in any detail or to make a value judgement on the websites. Since this study has a corporate perspective to the value of technical documentation, I hope that it can add a new view to the Finnish research pool. The study may be of interest to the companies involved in the study as well as to other practitioners and companies that operate in the field.

The method used in this study is qualitative content analysis. As Tuomi and Saarijärvi (2009, 103-104) state, qualitative content analysis is a type of textual analysis that aims to find meanings from the text. Since the aim is not focus on individual companies, but rather a phenomenon connected with them, qualitative content analysis is well suited for this study. The approach chosen for this study is the theory-guided approach (Tuomi and Saarijärvi 2009), for the analysis is helped by previous knowledge. As Tuomi and Saarijärvi (2009, 98) explain, the analysis begins by analysing the data, and theory is brought in later to guide the analysis.

The next two chapters of this study focus on the theoretical background. Chapter 2 discusses the status and role of the field of technical communication at a general level. Chapter 3 focuses on a more detailed analysis of the value and benefits of technical documentation. Chapter 4 introduces the material and research method used in this study. Chapter 5, in turn, presents the results of my analysis

on the selected corporate websites and thus also the answers to the research questions. The final chapter, Chapter 6, summarises the results and conclusions of this study and discusses possible future research topics arising from this study.

2. Status and role of technical communication

This chapter discusses the status of technical communication in order to provide background information for my analysis on the arguments presented on the corporate websites. I will first discuss the connection between status and professionalism in Chapter 2.1. I will also explore the possible reasons why technical communication has been suffering from a lack of status and is not always recognised as an expert profession. Chapter 2.2 discusses the field of technical communication in Finland to connect the Finnish technical communication field to the global one. Moreover, the chapter discusses the status of the field of technical communication in Finland. All the companies selected to the material used in this study operate in Finland, but since the corporate websites are in English, they might be expected to offer their services for global clients as well as Finnish ones.

2.1 Status and professionalism

The word *status* is defined as "The rank, position, or standing of a thing, esp. with regard to its importance" (OED 2017, s.v. "*status*", def. 3b). The status of a field, then, basically reflects its importance and position in relation to other fields. Both practitioners and academics have been concerned with the lack of status in the field of technical communication (e.g. Henning and Bemer 2016). Many technical communicators feel that they are not valued in the workplace either by their colleagues or by their employers (Spilka 2000, 219; Sullivan et al. 2003, 116), and that the field is not recognised as a specialised field of practice (Savage 2003, 1). Carliner (2003, 82) states that one of the greatest problems of technical communicators is their invisibility, both in industry and academe. A field that is regarded as invisible both by the practitioners themselves and society in general can hardly be seen as important or having a strong professional status.

The discussion on the status of technical communication is also connected to the discussion on professionalism and whether technical communication is seen merely as a field or something more: a profession. The OED (2017, s.v. "*professionalism",* def. 2) defines *professionalism* as "The practice

or status of a professional, as distinguished from an amateur". However, the definitions for the word *profession* vary. Carliner (2012, 51) defines *profession* as a discipline whose members do not have exclusive legal rights to perform work, to control training for their field or the performance and evaluation of work. He distinguishes profession from *occupation*, which includes law, medicine and accounting, and whose members possess the above-mentioned rights. Savage (2003) calls occupations "mature professions" in order to demonstrate a point of comparison and to create a hierarchy. Since the word *occupation* is commonly used everyday speech when simply describing one's line of work, without any reference to a higher status, I find Carliner's use of the term confusing. However, the key idea is that not all disciplines have the same status, so different terms are required to distinguish disciplines with a difference in status.

Spilka (2002) makes this distinction by using the terms *field* and *profession*. Spilka (2002, 98) defines *field* as a "body of knowledge and research and history of practice that center on a common purpose". She (ibid.) states that through its theory, research, training and a long history of practice, technical communication would qualify as a field. Spilka (ibid.) continues that a profession shares all the features mentioned above, but it also differs from a field in several ways. A profession is universally recognised, and it is characterised by a systematic means of working. It consists of a well-defined community and professional organisations. Moreover, members of a profession enjoy status and power both among practitioners and nonpractitioners. Spilka (2002, 99) argues that technical communication has not yet achieved all these goals.

Many agree with Spilka that technical communication has not arrived at full professional status (Kynell-Hunt 2003, 53; Savage 1999, 138; Sullivan et al. 2003, 116). Full professional status is achieved gradually, and Savage (1999) describes three professionalisation factors that contribute to establishing a field of practice as a profession: market factors, socio-political factors and ideological factors. I will next discuss these factors in more detail, for they provide fruitful points for the discussion of professionalism.

The first professionalisation factor is **market factors**, that is, factors affecting the niche of technical communication. Savage (1999, 144-145) explains that a field should be recognised as the appropriate source for the desired service, and it should actively discredit competing fields and establish certification standards; in short, a field should dominate its market. Moreover, practitioners should primarily work for clients, as for example lawyers do, and not for employers. Savage (1999, 145) mentions that historically, technical communicators have worked in industrial settings as employees, but technical communication consulting companies are now becoming more common. Savage (ibid.) sees that technical communicators working in such companies work for clients, for they offer services in technical communication to other companies, and that this kind of development in technical communication could increase the autonomy of technical communicators. According to Savage (1999, 145), market closure is not entirely reached by technical communication, since the market for technical communicators is also accessible to graduates from other fields. In addition, technical communicators are often not seen as professionals, since many practitioners lack formal credentials.

Savage (1999, 146-147) explains that there is no certification in the field from a central authority, nor a unified opinion of whether it even should be established. Henning and Bemer (2016, 320) point out that if technical communication professionals already lack status because the field lacks legitimacy, this difficulty cannot be solved by certification. In the 21st century, certification programmes have been established both in the USA and Europe. For instance, the Society for Technical Communication Certification programme (USA) is a three-tiered professional certification: Foundation, Practitioner, and Expert, but at the moment only the Foundation Certification is available (STC 2017a). The STC certification programme was not a huge success, for as Kimball (2016, 5) points out, it awarded only 30 certificates between 2010 and 2014, and it was therefore put on hold. Kimball (ibid.) continues that even though the small number of participants may have been caused by implementation problems or broader issues, only a few professionals participated. However, even

if this particular certification programme did not meet all expectations, it does not necessarily mean that the idea of certification should be abandoned, especially if certification is considered to be one step in the professionalisation process.

Savage (1999, 148) explains that due to companies' specialised needs and the move towards outsourcing in the 21st century, there has been an increase in the emergence of technical consulting companies, which often hire employees with strong formal educational credentials and work experience. Savage (1999, 148) states that they thus also discredit and exclude practitioners who do not have strong educational credentials, and all this lends prestige to the field. In my view, this might not be entirely accurate at least in Finland, where education has been available for the past 20 years: there are always some highly experienced technical communicators who might not have educational credentials but a substantial amount of work experience and knowledge.

The second of Savage's professionalisation factors is **socio-political factors**. According to Savage (1999, 148-149), the socio-political factors in professionalisation processes include the development of recognition and status of the field. This is achieved via development of formal educational programmes, control of credentialing procedures and establishing formal organisations that represent the profession to the public. Savage (1999, 149) continues that academic credentials are generally seen as a "powerful factor in establishing the social status of a field". Professionals with strong status, such as doctors or lawyers, are experts of their field, and have gained their expert knowledge via formal (academic) education. Savage (1999, 151) points out that while formal academic degree programmes do exist, "the knowledge of the field lacks the kind of categorical specificity that typifies most professions" and technical communicators may thus find it difficult to explain the exact nature of their specialised field to the (potential) users of their services. However, it must be taken into consideration that Savage's comments may no longer be valid, for much has happened since 1999. There are a number of academic programmes available in technical communication both in the US and in Europe.

Moreover, a more recent article by Rude (2009) challenges Savage's rather negative view. Rude (2009, 206) presents one option for defining the unique nature of technical communication: "No one else pays such close attention to texts used to get work done, particularly work that requires specialized knowledge. *Work* need not be defined by what one does to earn a paycheck or by the uses of tools, though that work deserves respect." Rude (2009, 206) continues that the work that is of interest to the field of technical communication also includes activities that are significant to society (and humankind) in general, such as changing environmental policy, raising funds for a nonprofit agency or representing immigration data visually to encourage analysis and informed decision making. Rude (2009, 207) summarizes that texts written by technical communicators are meant to enable people to make sound decisions, and "to take appropriate actions in the best interests of humanity".

Another aspect of socio-political factors is professional organisations. There are several professional organisations functioning in the field of technical communication. According to Savage (1999, 155), in the 1990s STC was working hard to create a more unified profession via various projects typical of professionalisation strategies, but the task was a difficult one due to the diverse membership the society represented. Savage (ibid.) continues that STC's power may thus be related to internal factors, not to external forms of control. If the STC does not manage to unify the profession, Savage (ibid.) states that it is "unlikely that the field can ever realize the advantages of governing itself; it is unlikely that it truly can function as a profession and become recognized socially and politically." Spilka (2002, 99) also agrees that STC has been unable to help the field to evolve into a profession. Spilka (2002, 104) expresses a wish that a professional coalition should be formed, and the status of the field should be elevated so that it becomes a profession. The role of technical communicators should also be elevated so that they can rise into leading and expert positions. This discussion is perhaps a little USA-focused and outdated, though I agree that technical communicators should be able to have ascending career development and be treated as experts.

The last of Savage's professionalisation factors is **ideological factors**, such as achieving political consciousness. According to Savage (1999, 155), achieving political consciousness includes having a common body of knowledge, a set of characteristic principles or standards, and organisation into professional societies. In addition to these, Savage (ibid.) lists the development of historical identity and realistic prospects of the practice as a life-long career. He (ibid.) states that unfortunately professional consciousness can hardly emerge if the field is not recognised or valued by society, and that there is no consensus over what the common knowledge most relevant for technical communicators is.

However, the situation has moved on from 1999, and efforts have been made to pinpoint relevant competencies. As Carliner (2012, 50) points out, STC has made important strides in formalising a body of knowledge for the field and is gaining recognition for the profession from government bodies. In 2015, tekom Europe, the largest professional association for technical communication in Europe, initiated a project called TecCOMFrame (Technical Communication Competence Framework), which aims to "develop standard curricula based on a common academic qualification and competence framework" (TecCOM Frame, 2017). Furthermore, the TecCOMFrame project aims to enforce the recognition of technical communication as a profession by supporting transparency, recognition, and transferability of the qualification and competencies of technical communicators.

According to Spilka (2002, 100-101), professionalisation would help the field to gain greater status and prestige, and thus also more influence both within organisations and society in general. Technical communicators would also be more successful in reaching their full potential at the workplace. Professionalisation is also important in view of the future, for the field needs to strengthen in order to survive and develop further in the 21st century.

The fact that the field of technical communication has struggled with both defining itself and naming itself illustrates how the field is struggling with the most fundamental issues and thus

preventing itself from evolving. As Spilka (2002, 101) explains, practitioners have used a great variety of terms to describe the field over the past five decades, such as *information architecture*, *information engineering* and *information development*, whereas in academe the field has been called with titles such as *professional writing*, *workplace writing* or *nonacademic writing*. Spilka (2002, 101-102) states that the most common titles for the field that have been in use over the years are *technical writing*, *technical communication*, *document design* and *information design*. The word *writing* has given way to *communication* due to the increase of online documentation and the growing complexity of skills and knowledge technical communicators need to possess. Since technical communicators can also provide other than written information, I prefer the word *communication* to *writing*. The tekom Europe website (tekom Europe 2018) has a short and pithy definition of technical communication: "Technical communication is the process of defining, creating and delivering information products for the safe, efficient and effective use of products (technical systems, software, services)." In my view, this definition takes the multiplicity of the field into consideration without making it overly complex.

Conversation around the definition of technical communication and the essential skills of a technical communicator has continued to this day. Rude (2009, 188) points out that some titles and terms used in technical communication publications in the early 21st century suggest that the definition of the field requires reshaping, revising, and rethinking. Rude (ibid.) argues that the prefix *re* implies that the field has an established identity, which requires modification, but the prefix also reflects a failure to define the characteristics. Rude (ibid.) continues that the ongoing efforts to define or redefine the field may also suggest that people are not satisfied with the definitions that are in use. In my view, this reflects the changes the field has experienced, as well as the struggle towards a profession with a higher status. Since the work of technical communicators sometimes overlaps with other fields, such as translation or marketing, it may be challenging to provide a descriptive yet concise definition. Moreover, technical communication can include various different jobs with

different job descriptions, such as technical writing or editing, information design, technical illustration and visual design (STC 2017b). This makes the field heterogenic, which contributes to the difficulty of defining the key competencies.

The revised definition of a technical communicator provided by Henning and Bemer (2016), is a good example of the need to reshape the field. Henning and Bemer suggest a revision of the *OOH*'s (*Occupational Outlook Handbook*) definition of a technical communicator in order to improve power and legitimacy. Henning and Bemer (2016, 315) state that scholars wish to empower the field of technical communication through professionalising and developing the core skills of a technical communicator. The *OOH,* published by the American Bureau of Labor Statistics, is a handbook that provides career information on the duties, education and training, pay, and outlook of various professions. The definition of *technical writers* was included in the OOH in 2010, and it was considered to bring legitimacy to the field of technical communication (Henning and Bemer 2016, 326). The current *OOH* definition reads (U.S. Department of Labor, Bureau of Labor Statistics, 2012):

> Technical writers, also called technical communicators, produce instruction manuals and other supporting documents to communicate complex and technical information more easily. They also develop, gather, and disseminate technical information among customers, designers, and manufacturers.

Henning and Bemer (2016, 330-332) argue that their revised definition creates a stronger brand identity, synthesises industry and academic values, allows for a better tracking of industry trends and is more flexible. Henning and Bemer (2016, 328) propose the following definition:

> Technical writers, also called technical communicators, produce documents in a variety of media to communicate complex and technical information. They employ theories and conventions of communication to develop, gather, and disseminate technical usable information among specific audiences such as customers, designers, and manufacturers.

According to Henning and Bemer (2016, 329), the definition has been made more flexible because the type of deliverables is not limited to instruction manuals only. Thus, the definition now fits better

the multiple practical and conceptual skills in the profession. In my view, the word *documents* still relates to actual physical documents or at least to lengthy texts, and I might prefer the word *content* instead. Henning and Bemer (ibid.) point out that including the word *theory* highlights the fact that there is theory-based academic education for technical communicators, who are able to employ particular methods and modes of thinking in their work. To nonpractitioners this communicates that technical communicators are experts of their field and best qualified to provide the services of technical communication, which is good. I agree with Henning and Bemer (2016, 330), who point out that having a clear, up-to-date and correct definition of the core skills of a technical communicator helps to create a strong brand identity for the field. Henning and Bemer (ibid.) conclude that "the issues of power and legitimacy in technical communication are connected to clearly defining what a technical communicator does."

In a recent article, St. Amant and Meloncon (2016) bring an additional aspect to legitimacy. They (2016, 268) define *legitimate* as "worthy of attention and consideration". St. Amant and Meloncon (ibid.) argue that in order to establish the legitimacy of its opinions, ideas and objectives with a unified voice, a group should have a shared message and shared goals. According to St. Amant and Meloncon (ibid.), the key to legitimacy and power is commonality, which creates legitimacy in the eyes of outsiders. Moreover, it brings more power, because through commonality others give more attention to the group. Commonality makes the ideas and opinions of a group reasonable and credible, and having value and weight. The idea of a shared, common opinion on matters seems thus a key factor in trying to improve legitimacy. As the discussion in this chapter has shown, the field of technical communication has struggled with commonality and shared views on various matters, essential professional skills being one of them. In the light of present-day knowledge, I must argue that although some of the goals towards professionalisation are yet to be reached, others have been attained.

2.2 Status of technical communication in Finland

As explained in the Introduction, technical communication is a relatively young area of expertise in Finland. The field has a professional organisation in Finland, for the Finnish Technical Communications Society was established in 1997 (FTCS 2017a). According to FTCS (2017b), most people working in technical communication in Finland have a linguistics background, and most of the texts created in Finland are written in English. Almost all technical communicators have passed their matriculation examination, and more than half of them have a higher academic degree. The FTCS website (2017b) states that the majority of Finnish technical communicators work in the field of information technology (especially wireless communications), but in recent years companies have outsourced their technical communication professionals due to financial reasons and in order to focus more on their core expertise. Various service companies, some of which were selected for the material used this study, are thus also significant employers of technical communicators in Finland.

International ISO standards affect technical communication globally (ISO 2018), but in Finland and in other EU countries, the European Union has an important influence on the position of technical communication. The EU exercises legislation (directives) related to safety requirements for machines, equipment and products. For example, the safety of machinery is regulated by the European Machinery Directive 2006/42/EC (Tukes 2013), according to which all machines must be accompanied by operating and maintenance instructions. Moreover, there are several Finnish laws related to technical communication (Abdallah et al. 2005, 152). Government Decree on Information to Be Supplied in respect of Consumer Products and Services demands that all consumer goods must include instructions in Finnish and in Swedish (Valtioneuvoston asetus kulutustavaroista ja kuluttajapalveluksista annettavista tiedoista 613/2004). However, even if such documents are required by law, they are unfortunately not necessarily produced by professional technical communicators.

There are three universities offering academic education in technical communication: Tampere, Vaasa and Oulu. The research on technical communication in Finland is not very comprehensive (Suojanen 2000, 33; Virtaluoto 2015, 60), but there are some studies worth considering when discussing the status of the field. Korhonen (2007) and Virtaluoto (2015) have studied the status of the field of technical communication in Finland. Both Korhonen (2007, 2) and Virtaluoto (2015, 18) agree that technical communication has not yet reached a professional status in Finland. Problems with visibility have also risen in other European countries, for example in France (Flacke 2015, 47), Denmark (Ring 2005, 51) and the UK (Fisk 2005, 90). The problems faced by technical communicators seem to be common, which, as Virtaluoto (2015, 43) also points out, seems to suggest that in recent years many developed (i.e. high-cost) countries face similar challenges related to outsourcing and offshoring.

Korhonen (2007, 29) conducted a survey in order to chart how the people working in technical communication in Finland perceive the field and their own professional status. The survey was answered by 96 practitioners. Although their status at the workplace was fairly good, and over half of the respondents experienced that they were respected at the workplace, just under half of them felt that they were less respected than other employees. Many of them complained that there was very little respect coming from outside the field, and that the field does not really have a status in society for it is unknown to the general public. However, Korhonen (2007, 55-56) explains that most of the respondents felt that they were doing valuable work, even if the field itself was considered relatively invisible. This would suggest that technical communicators value their own profession, which is a positive sign, since self-appreciation is important if the field of technical communication as a whole is striving to gain acknowledgement from nonpractitioners and society in general.

Virtaluoto (2015) has also studied the status of technical communication in Finland, and in her dissertation interviewed a small group of Finnish practitioners. Virtaluoto (2015, 47-48) says that the interviews for her study were conducted “at a time when the aftermath of the global financial crisis

and the downsizing of many of the major employers if the field coincided in Finland". She continues that the field of technical communication is still recovering in Finland, and many of the respondents commented that the current problems the field is facing seemed more profound than those in the past. Among the most pressing problems that the respondents mentioned were the number of available posts, the lack of new practitioners to the field and the effects of offshoring and outsourcing.

The experiences of Finnish technical communicators have also been gathered by FTCS. FTCS has conducted regular salary surveys since 2001 (Abdallah et al. 2005, 85). The results of the 2015 survey mirror the results of the studies made by Korhonen (2007) and Virtaluoto (2015). As Virtaluoto et al. (2015, 3-18) explain, this survey was answered by 72 practitioners, and most of them had a permanent job in technical communication. Over 70% of the respondents had the view that they would be working in technical communication in the future. As Virtaluoto et al. (2015, 22-23) say, however, there was also some insecurity about the future of the profession, and some respondents were worried that they would be made redundant and did not believe in finding employment within technical communication, which reflects the insecure financial situation in Finland. While some felt that their job description was expanding and diversifying, others felt that the profession had not developed in a positive way. Interestingly, 95% of the respondents considered themselves as experts and the majority had an official job description (Virtaluoto et al 2015, 53-55).

As the studies by Korhonen (2007) and Virtaluoto (2015) show, Finnish technical communicators feel that the field of technical communication is not recognised by society in general. This is also reflected in some of the online public services. The Finnish Ministry of Economic Affairs and Employment has a similar service to the American *OOH* (presented in Chapter 2.1) called Ammattinetti. Ammattinetti (2017) is an electronic service that provides information on various occupations and lines of trade. Ammattinetti is also promoted on the website of Public employment and business services (TE-palvelut) for people searching for career options and information on education. Interestingly, the field of technical communication is totally absent from the service, since

there is no entry on titles such as *technical writer/communicator* (tekninen kirjoittaja/viestijä) or *documentation specialist* (dokumentoija). In comparison, occupations such as *translator* and *graphic designer* are listed under Culture and communication (Kulttuuri ja viestintä), and *language technologist* and *copywriter* under Information and communication technology (Tieto- ja viestintätekniikka).

A closer look at the website of Public employment and business services, and especially the website listing vacancies (TE-palvelut 2017), reveals that *technical writer* is not listed among the list of job titles provided. The only titles listed under expert and specialist jobs in Information and telecommunication technology (Informaatio- ja tietoliikenne) or Information and communication technology (Tieto- ja viestintäteknologia) are technical experts and technicians. Moreover, one cannot search for vacancies on the field as a whole. It is of course possible to search for *technical writer*, but then one needs to separately search for all the other several possible job titles. The service lists *interpreters* and *translators* under specialists in Law, social services and cultural services (Lainopilliset, sosiaali- ja kulttuuriala), so the field of translation is recognised as a specialist field.

The title *technical writer* is equally absent in the electronic service *Opintopolku*. *Opintopolku* (2017) is the official and up-to-date website that has information on study programmes leading to a degree in Finland, and it is maintained by the Finnish National Agency for Education. At the University of Vaasa, the technical communication programme is a programme leading to a Master's degree (UVA 2017), so it should be listed in *Opintopolku*, but for some reason it is not. Again, in comparison to *technical writer*, the word *translator* yielded 45 entries in the search.

Both *Ammattinetti* and *Opintopolku* provide information for young people searching future career possibilities, so it is unfortunate that technical communication has not been added into these services. In addition, this lack of recognition of the field is problematic for unemployed people, for the Public employment and business services can hardly recognise their expertise or offer them

vacancies matching their education and experience. Technical communication is totally absent from these public services, and it shows how unrecognised the field is in Finnish society.

On the other hand, Statistics Finland (2010) has acknowledged technical communication, but unfortunately the classification of the field is all wrong. In its classification of occupations (Statistics Finland 2010), Statistics Finland has placed technical communication under the class Cultural and entertainment activities (Kulttuuri- ja viihdetoiminta), more specifically under Artistic creation (Taiteellinen luominen). *Technical writing* is explained to mean "for example writing user guides" (my translation). Interestingly, *translation* and *interpreting* are listed under Professional, scientific and technical activities (Ammatillinen, tieteellinen ja tekninen toiminta) (more specifically under Specialised services for business life (Muut erikoistuneet palvelut liike-elämälle).

Translation and technical communication share some common ground, for as Risku (2004, 182) explains, both translation and technical communication effectively use source texts and other material to produce documents that are suitable for a specific target group, situation and environment. Suojanen (2010, 49) sees technical communication and translation "on the same process continuum when a product is being documented". As Suojanen (ibid.) states, technical communication should be seen as a field of its own, and not as a part of the field of translation. To me it would thus make sense to find *technical communication* listed under the same category as translation and interpreting in the classification of occupations. Moreover, *technical writer* should be listed as an expert or specialist job title on the website of Public employment and business services.

3. The value and quality of technical communication

"Anyone can write", as they say, so how then justify the role of technical communication? As previously discussed, even though technical communicators themselves regard their work as important and may think that it is obvious that high-quality technical documentation reduces for example post-market expenses, their work often goes unrecognised by companies and managers. What kind of actual benefits, then, does technical documentation bring for a company and should good quality technical documentation be something to strive for? On its website, STC (2017b) states that technical communicators "make information more useable and accessible to those who need that information, and in doing so, they advance the goals of the companies or organisations that employ them". This statement underlines the fact that technical communicators are not merely editors making some document a bit smarter, but they contribute to the big picture and can make a difference to a company in financial terms. On the other hand, they may also bring other, less concrete benefits to companies and organisations. Good documentation may help establish credibility and provide reassurance that the company and its products are reliable. Quality is thus strongly connected with adding value. In Chapter 3.1, I will first discuss the way in which value is defined in technical communication and the various ways in which technical communication can add value to a company. Chapter 3.2 discusses how quality is perceived in connection with technical communication.

3.1 Value of technical communication

Unfortunately, many companies still view technical communication simply as a business expense (Ward 2015), which contributes to a lack of recognition for technical communication professionals. This, as Ward (2015) continues, contributes to companies not investing in technical communication, thus making it difficult to turn the expense into an investment and profit.

Slaughter (2009, 13) points out that "*understanding the importance* of effective technical communication is different from *quantifying its value* in economic terms" (emphasis in the original).

What this means is that managers and business executives recognise the importance of technical communication, but in a kind of universal level, for they have not discovered how good-quality technical communication could actually bring profit to the company. Ward (2015) suggests that the first step in correcting the harmful mindset is to adopt a new one, in which the core idea is that technical documentation can and will make companies more profitable while both achieving the traditional goals of documentation and actively promoting value to the customers.

The aim of a company is basically to earn profit while producing products or services at a minimal risk. As Mead (1998, 353) points out, from a business perspective any business activity "exists to add value to the company's product or service". Mead (ibid.) continues that if it cannot be shown how technical documentation contributes to the bottom line, there is no reason for it to exist. At that point the efficiency or quality of the documents themselves is not relevant, because the aim of a company is to make profit. Mead, however, ignores the fact that in some cases technical documents are required by law, as explained in Chapter 2.2. In such cases documentation needs to exist, whether it adds value or not.

Mead (1998, 354) defines *value* simply as "the benefit of an activity minus its cost". Value can be expressed both in concrete monetary terms and in less concrete terms (such as customer satisfaction). If both the benefit and the cost of technical documentation can be expressed in monetary terms, it is possible to calculate a monetary value. If the value is expressed in less concrete terms, the added value is vaguer, as Mead (1998, 354) points out. In this thesis, I will use *value* to refer only to monetary value.

Redish (2003, 505) agrees that technical communicators should learn to speak the language of the management, which is interested in costs and benefits, and in return on investment. Thus, it is vital to show how technical documentation can both reduce costs and, more importantly, to bring return on investment and help the company make profit. Redish (2003, 505) makes a relevant notion: when measuring value added by technical communication, we should take a long-range view of the

life cycle of technical documentation products, since return on investment also comes after the document (or other technical documentation deliverable) gets to the user. Therefore, in addition to preparation and production, also support, maintenance and revision must be included when counting the costs and benefits of a technical documentation product.

Mead (1998, 355) lists three categories into which the value added by technical communication falls: (1) reducing internal investment, (2) increasing direct return on investment, and (3) reducing after-sales costs. I will now discuss these three categories and provide examples of how technical communication can add value.

(1) **Reducing internal investment**. Mead (1998, 359) states that there are three areas in which documentation can reduce internal investments. The first is increased internal efficiency (in documentation and other departments) and reduced documentation costs. Studies have shown that investing in professional technical communication can lead to significant value-add to company operations. Mead (1998, 360) continues that for example, if a company invests in upgraded publication tools and technology, and technical communicators have access to up-to-date product information, the publication cycle for documentation can become shorter. Moreover, internal processes for enhancing efficiency are also important, for ways of working can often be improved so that the workflow is made smoother and quicker. As Mead (1998, 362) concludes, value can often be added simply by offering technical communicators the time and resources they need, together with an open-minded management. An important note to keep in mind is to reduce costs without sacrificing the quality of documentation, as Redish (2003, 505) also points out.

An additional way to reduce costs by using professional technical communication tools is single-sourcing. Rockley (2001, 189) explains that single-sourcing basically means “writing information once and using it many times”. Single-sourcing allows the same content to be used in different documents (or in different parts of the same document). Rockley (2001, 189-190) continues that this does not mean that the information is copied and pasted into another source: new documents

are created by "referencing" information elements to the document or by drawing information elements from a database. The information that already exists can thus be reused, which saves time and money. Updating documents is faster and thus also cheaper, because the piece of information that has changed needs to be updated in one place only, instead of manually changing it to all possible documents containing that same information. As Slaughter (2009, 14) mentions, the use of XML (a markup language) and DITA (an XML data model) is a good example of how documentation creation can reduce costs. Another way is to use graphics instead of texts, for that reduces the need for translation, and possibly printing.

The second area for reducing internal investments is enhanced production process. Since technical communicators often are the first testers of a product and explore its features, they also often discover problems in the course of their work. Redish (2003, 505) agrees with Mead (1998, 362), who points out that technical communicators actually work as "*de facto* testers" and thus add considerable value by pointing out problems, possibly already during the development phase. Technical communicators can also conduct usability testing, and as Slaughter (2009, 13) remarks, technical communicators serve as advocates for users, for they regard their tasks with non-engineering eyes. Problems with the product can be discovered at an early stage instead of discovering them after the product has been released. It is more expensive to learn about problems later, for the product may already be in production or in use.

The third area is the easing of important company transitions or upheavals such as downsizing, mergers, or reorganisation. Mead (1998, 362) says that technical communicators have important roles both in making rapid product development possible and working within the corporate structure. Both of these roles add value through enhancing the product development process. Mead (1998, ibid.) remarks that the latter role extends beyond merely developing a specific product, for in this role a technical communicator can contribute to how smoothly a company functions, both in stable and difficult times, challenging transition. To me, this kind of liaison role sounds unfamiliar, and for

example the study conducted by Virtaluoto (2015) did not indicate such roles for technical communicators. At a general level, however, companies often struggle with internal communication, so having people with excellent communication skills is an advantage, if their potential is utilised.

(2) **Improving direct return on investment.** According to Mead (1998, 364), this second category is problematic, because "it is so difficult to isolate documentation as the variable on which increased product sales depends." This makes it difficult to carry out studies of this kind of value-add, though they are possibly the most useful ones. Mead (ibid.) continues that direct return on investment is most likely to take the form of increases in customer satisfaction and sales, which can be traced to improved documentation quality. Mead (ibid.) states that studies have shown that "technical documentation can help translate customer perception into revenue". Slaughter (2009, 13) lists that since technical communicators have created the documentation, they can help build "customer goodwill" by training people to use the product or service correctly. The value of this can be measured by looking at customer satisfaction and sales.

Mead (1998, 373-374) suggests that the second category (directly improving return on investment) might indicate a new view in which information is an integral part of the product or even an idea that information is a product itself, like software or another item the customer is purchasing. The traditional view of documentation has been that information supports the product, but it is not an integral component of the product. Johnson-Eilola (1996, 250) argues that the traditional support role for technical communication disempowers technical communicators for it does not take the broader, social purposes and contexts of the users' work into consideration. Johnson-Eilola (1996, 266) continues that this kind of narrow and harmful "focus may begin to broaden in contexts where documentation is produced as the primary product."

Byrne (2006, 152) states that if one were very specific, the technical communication product would actually be an interface between the user and the interface of, for example, a computer interface, but it is more convenient to regard it as an extension. Slaughter (2009, 12) explains that

technical communication is often not seen as a centre for profit because technical documentation deliverables usually accompany a product or a service and are not seen as products in themselves. If a technical documentation product is considered to be a product in itself, it may make it easier to determine a value for it. As there are companies nowadays that offer technical documentation services, we seem to have arrived at a point where professional technical communication indeed is the product.

In a more recent article, Williams (2010) agrees with Johnson-Eilola's (1996) idea of focusing more on the communication side of technical communication. Williams (2010, 431) wishes to expand the discourses within technical communication in order to "enrich the discipline and move us beyond our still pervasive discourse of expedience". Williams (2010, 443) states that technical communication requires a discursive diversity, which it at the moment it does not possess, and that building that diversity changes the primary value propositions of technical communication. Williams (2010, 443-44) suggests that we should not try to just find even better ways of doing the same thing (communicating expediently), but instead aim to place methods, ideas and values in a dialogue in order to enable interaction. Moreover, technical communicators should be regarded as innovators who bring quantifiable value to companies and cannot be outsourced, not merely as puzzle solvers.

Even though Williams' ideas are perhaps somewhat high-flown, in my opinion he is making a good point, for the field could find new ways to add value and benefit companies by discovering new possibilities and asking new types of questions. This would also require technical communicators to be open-minded and volunteer for new, additional roles. As the website of the Institute of Scientific and Technical Communicators (ISTC 2015) states:

> Communication is an essential ingredient for the success and quality of any product, service or business. If people cannot use something, or cannot find out how to solve problems they might come across, they are less likely to use or buy your product or service.

Seeing technical communicators as innovators and technical communication products separate from the original products may be one way of taking technical communication beyond the support role to which it is often limited.

(3) **Reducing after-sales costs**. Categories (1) and (2) show how technical communication can add value through its ability to improve internal processes and contribute to company revenues. Mead (1998, 370) argues that the third category, reducing after-sales costs, is the most visible and easily quantifiable one. Mead (ibid.) states that studies have shown a direct correlation in cost reduction due to improved documentation; for example, phone support costs and other documentation support costs have been reduced. There are also other after-sales costs besides support. Mead (1998, 372) adds that through quality documentation investment, a company can save in legal liability costs. As mentioned in Chapter 2, there are legislation and standards that regulate documentation, which is why a thorough knowledge of legislation and specific standards is very important for technical communicators, for much can depend on their professionalism. In many cases, as in medicine, arms industry or aviation security, there is high risk of injury or accident, so it is of extreme importance for a company that the documentation they produce is correct and of good quality. If a company fails to include appropriate warnings and instructions with its product, it may face legal problems.

3.2 Value through quality

Chapter 3.1 touched briefly on the subject of quality, and since it seems to contribute to the value of technical communication, there is need to consider it further. As mentioned, good quality brings customer satisfaction, but there are more aspects to it. To begin with, we need consider the definition of quality when applied to technical communication more closely.

Reilly (1993) sees that quality in technical communication lies in one of four areas: the product, the process, the users' perceptions, or the professional communicator, and argues that they are mutually exclusive. In my view, this kind of perception acknowledges that there are different aspects

to quality in technical communication, and that it is affected by specific factors, but one aspect of quality does not necessarily rule out another. Smart et al. (1995, 475) argue that we need to recognise the complex nature of quality, and that quality in technical communication does have different components, but the importance of each depends on the context. I would like to point out that companies offering technical communication services must also take the complex nature of quality into consideration. There are several parties involved in producing technical communication material for customers, such as the customer, the company, the technical communicator and the users. The customer may have a different view of quality than the technical communicator, and these views must be brought into a synthesis.

Smart et al. (1995, 475) present six categories for defining quality in technical communication. The six categories are:

1. Transcendent quality
2. Customer-based (or user-based) quality
3. Value-based quality
4. Design-based quality
5. Product-based quality
6. Strategic quality

In my view, the categories demonstrate the various aspects of quality in technical communication, even if some of the categories are not as relevant as others. Smart et al. (1995, 475-477) also present a two-dimensional model, which helps to visually depict the above mentioned six categories. The model has two bases for categorising quality definitions: an internal-external focus and a subjective-objective focus. The model is presented in Figure 1 on the next page:

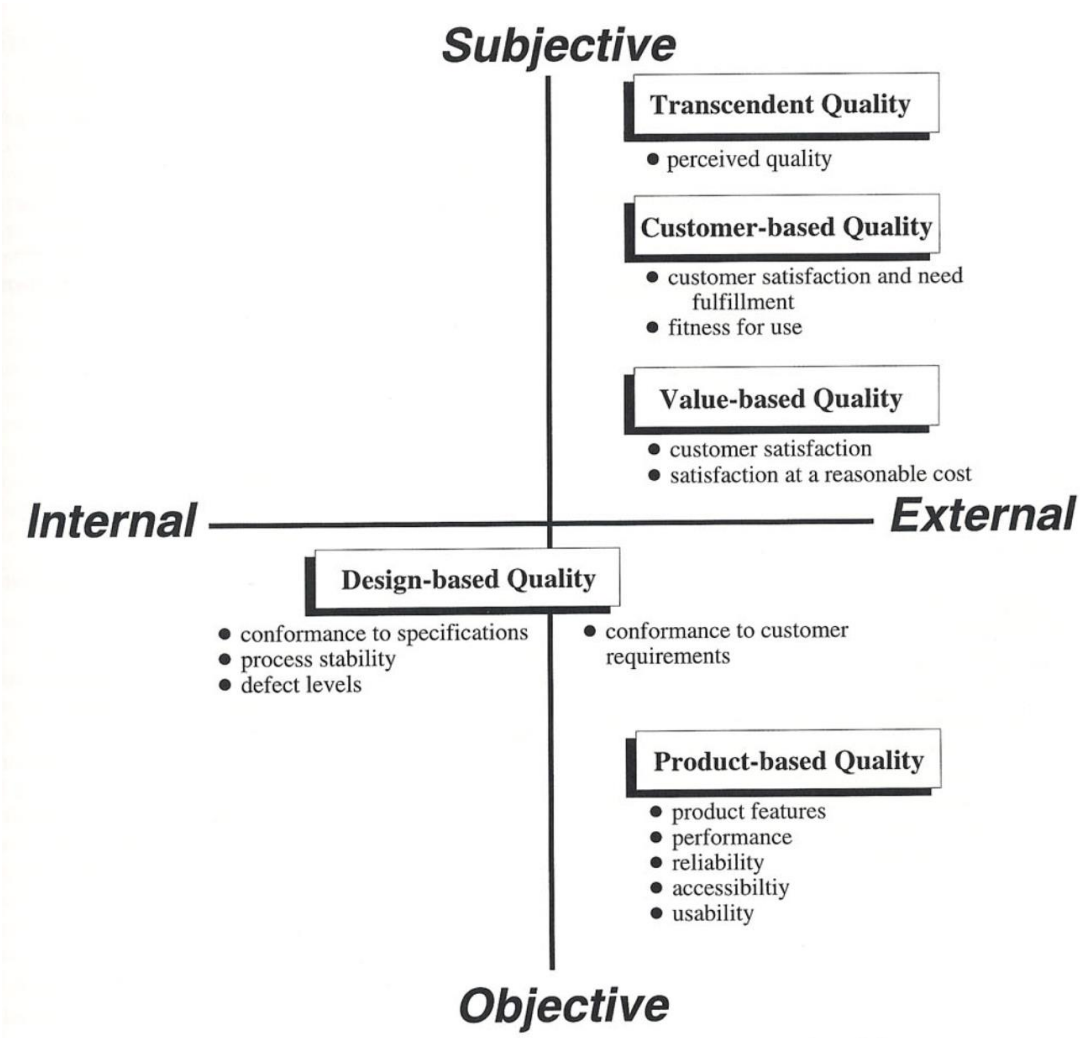

Figure 1. Quality definitions on a two-dimensional model (reprinted from Smart et al. 1995, 477).

Next, I will discuss each category in more detail and begin with **transcendent quality**. Smart et al. (1995, 476) explain that a transcendent definition of quality describes an external, subjective quality, and assumes that people can recognise quality when it exists, and that goodness can be applied to all kinds of products. Smart et al. (ibid.) add that perceptions differ sometimes greatly, and that personal bias often effect the evaluation (one's own product is often seen to be better than the competitor's), which makes this subjective, external approach unsuitable for many quality comparisons.

Another subjective category is **customer-based (user-based) quality**. According to Smart et al. (1995, 477), it focuses on the needs and expectations of the customer. Smart et al. (ibid.) seem use the terms *customer* and *user* interchangeably in this context, arguing that customer-based quality is

sometimes called user-based quality. I would prefer to keep the terms *customer* and *user* separate, for the customer of a technical communicator is in most cases not the actual user of the technical communication product. Moreover, Smart et al. refer to *customer* in connection with other quality definitions, and in those it is not the same as *user*. Replacing *user* with *customer* leaves no term for the latter, so I prefer to use the term *user-based* here. Smart et al. (1995, 478) explain that for example by performing audience analyses and usability testing, and by emphasizing the importance of accessible and understandable information one can move toward user-based quality. However, users' perceptions of quality are not always identical, which may sometimes make it difficult to apply user-based quality definitions. This definition of quality unfortunately leaves out the actual customer, meaning the person or company who has ordered the technical documentation product or service. The customer may very well have their own views on quality, related to both the content and the design of the product.

An extension of user-based quality definitions is **value-based quality**, which is categorised as subjective and external. According to Smart et al. (1995, 478), value-based quality has a few added characteristics: aspects of user cost and product price, which include values of use, cost, esteem and exchange. They thus add other than monetary aspects to value. Smart et al. (ibid.) state that in technical communication, value-based quality means that the communication product must satisfy customers (whether internal or external) at a reasonable cost. Quality is thus one aspect of value, as noted in Chapter 3.1, and according to Smart et al. (ibid.), value is one aspect of quality. In a business environment, financial value is naturally a vital factor, and thus also important for companies offering technical communication services for other companies.

Design-based quality is objective and can be either external or internal. Smart et al. (1995, 476) explain that it describes how well something conforms to specifications, such as design specifications or customer-specific standards. There are various quality standards in technical communication, such as quality metrics, style guides and other possible company standards.

Moreover, as mentioned in Chapter 2.2, technical communicators may need to consider requirements such as ISO standards in different industries. The documentation they produce must meet the requirements of the standards to be of good quality.

In addition to design-based quality, the other objective definition of quality is **product-based quality**. According to Smart et al. (1995, 476), product-based definitions denote quality as a measurable construct. The quality of a product can be measured via such characteristics as reliability, durability, serviceability and performance. In technical communication, these characteristics are often usability, accessibility, and reliability, as Smart et al. (1995, 477) continue. For example, an online help should include certain attributes to meet the requirements and expectations of the user.

As Smart et al. (1995, 478) state, quality is one way for a company to differentiate from its competitors: with a product that is of better quality than the competing products, a company can increase market share. Satisfied customers and good quality products may provide a long-term advantage in the marketplace, for they affect the brand and image of the company. As was discussed in Chapter 3.1, a technical communication product can be seen as an extension of the actual product or even as a product itself. This idea is also connected to quality, for Smart et al. (ibid.) point out "Increasingly, the ability to effectively convey information–the essence of what technical communicators do–has become a means of differentiating products and services." This brings us to the last category, **strategic quality**, which brings all the other categories together while also offering an extension to the other categories. This is demonstrated by Figure 2:

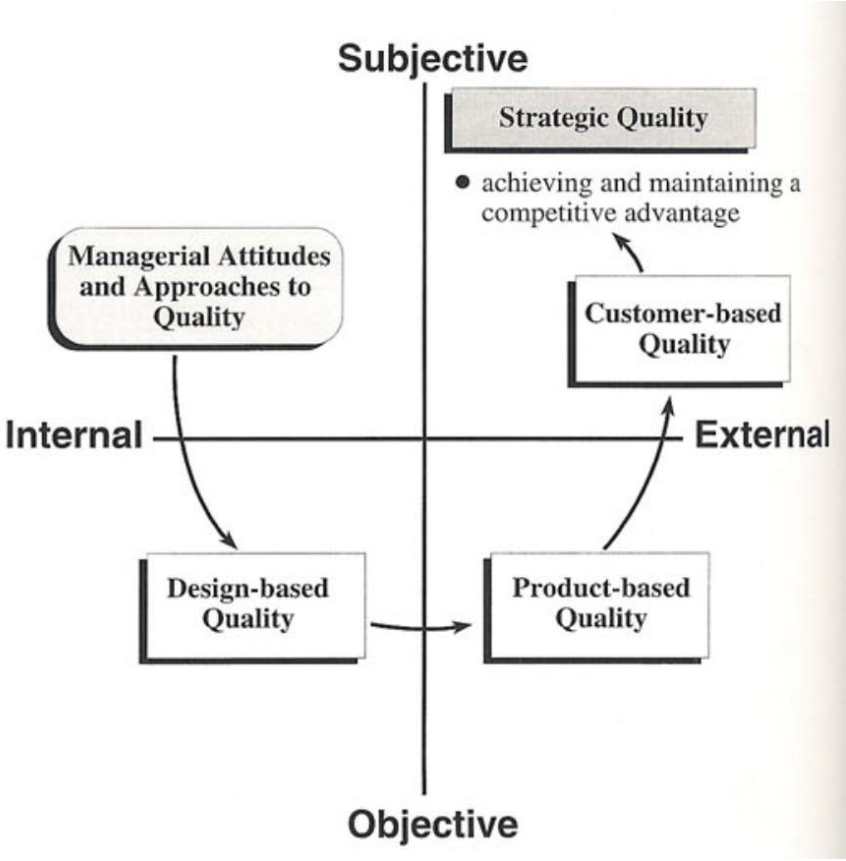

Figure 2. Interaction of quality dimensions to produce strategic quality (reprinted from Smart et al. 1995, 478).

As Figure 2 above demonstrates, the starting point of strategic quality is managerial attitude that comes from within the company. Smart et al. (1995, 478) explain that strategic quality includes strong managerial commitment, and that any implementation of quality must have managerial support. Strategic quality is achieved through both managerial commitment and the other dimensions of quality.

As Smart et al. (1995, 479) state, there are multiple aspects to quality and they operate concurrently, not independently. The continuum from internal to external quality definitions shows a difference in perspective. Smart et al. (ibid.) explain that the definitions that fall toward the internal end of the spectrum represent methods to achieve product quality. The definitions that lay on the external end result from production process. Since they do not explain this distinction further, it remains unclear exactly to what these methods and processes refer to. Smart et al. (ibid.) point out

that “external definitions have a greater application when the competitive advantage of a product is considered”. I agree that for instance user-based quality is very important when considering the overall quality of a technical documentation products.

Smart et al. (1995, 479) conclude that the two-dimensional model offers a framework that shows the different emphases of the various definitions of quality and their interrelation. Moreover, Smart et al. (ibid.) add that the model can help to achieve better communication between companies and consumers and it can also result in greater success in a competitive market. In my view, the framework demonstrates the complex nature of quality well, even if some of the definitions might benefit from more comprehensive explanations and more concrete examples related to technical communication. I will return to these definitions of quality discussed here later in Chapter 5.

4. Material and method

To begin with, this chapter offers an overall view of the companies that were selected for material in this research. The chapter will also present the method used in this study, as well as describe the different stages of the analysis.

4.1 Material

The data for this study consists of the websites of five companies offering services in technical documentation. The companies selected for analysis are the most significant ones operating in Finland in this field at the time of selecting the material. As mentioned in the Introduction, the chair of STVY, who has extensive industry knowledge, supported my choice of companies. Moreover, all the companies were required to have a website in English.

All the companies offer other services in addition to technical documentation. These services include translation, localisation and audio transcription services. Some companies mainly offer various engineering services. In this study the companies selected for analysis are discussed by using coded names based on the alphabet: Company A, Company B, Company C, Company D, Company E and Company F (Appendix A). As mentioned in the Introduction, the study focuses on examining the status and value of technical communication as a general phenomenon, not from the viewpoint of individual companies. However, it is important that the companies can be separated from each other in order to examine how they stand out from each other.

As a data source, company websites are fruitful, for they offer a huge amount of data which can be accessed easily. The flip side is that the data is often rather complicated, for websites include several subpages and links. The links can be either internal or external, directing the user to other websites. Moreover, there are often other forms of content beside text on the page itself: pictures, videos and documents. As Kim and Kuljis (2010, 369-370) point out, the research data from websites should be outlined with care. In this study, only textual content is included in the research material.

Pictures, videos, links (both to for example pdf-files and external content) are not included in order to outline the data. The relevant pdf-files available on some of the corporate websites did not offer any information that would have added to the content of the text on the website itself. As mentioned in the Introduction, this study does not aim to perform a usability analysis or analyse the layout of the websites, and thus features dealing with those are also excluded from this study.

My starting point was to browse the websites in order to find the section introducing the company's technical documentation services. Since the companies used various terms to describe these services, I needed to consider which subpages I wanted to include in the analysis (see Chapter 5). Moreover, some companies also described their technical documentation services in the sections that provided general information about the company. In the end I decided to exclude these and focus only on the material in the technical documentation section.

All the companies offered translation services and listed them in the same section as technical documentation services. The translation sections were also included in the material, for the companies seemed to consider translation services as a part of their technical documentation services. The line between the two fields is not always clear, as discussed in Chapter 2.2. It is a different matter to consider the fields of technical communication and translation from a scientific or professional point of view than from the point of view business services. From a business point of view, it is logical that the companies have included translation into technical documentation. In some cases, documentation needs to be translated and localised, and this process may be seen as a part of the company's technical documentation service provided for the customer.

After the relevant textual parts were chosen, they were then brought into a spreadsheet, which was used to help process the material and help with the analysis. The material for the study was collected on the 15th and 16th of April 2017.

4.2 Qualitative content analysis

All the pages included in the research data were analysed using qualitative content analysis. According to Tuomi and Saarijärvi (2009, 103-104), the aim of qualitative content analysis is to successfully describe the studied phenomenon in a condensed and general form, and it is well suited to analysing both structured and unstructured data. Websites offer data that is fairly structured, for there are main pages, subpages, headlines etc., but the information can sometimes be fragmented.

Content analysis is a type of textual analysis, and qualitative content analysis aims to find meanings from the text (Tuomi and Saarijärvi 2009, 104). Kim and Kuljis (2010, 370) explain that content analysis is predominantly interpretive, and that statistics are in many cases not utilised for data analysis. Moreover, it does not aim to examine the individual directly, but rather the artefact of communication (e.g. text) and the phenomena connected with it (Kim and Kuljis 2010, 370). It is thus a suitable method for this study, which aims to describe the status and value of technical documentation services as they are seen on corporate websites. As Kim and Kuljis (2010, 370) explain, it must be kept in mind that qualitative analysis is always dependent on the subjective interpretation of the researcher, which makes the generalisability of the results extremely difficult. Content analysis alone cannot give answers; it can only provide speculative answers to questions.

There are three possible approaches to qualitative content analysis: data-based approach, theory-based approach, and theory-guided approach. The theory-guided approach was chosen as the method for this study. In the theory-guided approach, the analysis is helped by both theory and previous knowledge, but the theoretical connections are not directly based on a specific theory. All in all, the influence of previous knowledge can be seen in the analysis and help it, but its significance is not to test the theory; instead, it offers new ways of thinking (Tuomi and Saarijärvi 2009, 96-97). Thus, as Tuomi and Saarijärvi (2009, 98) also state, the theory-guided analysis allows the material for the study to be gathered rather freely. Moreover, previous knowledge or a specific theoretical framework do not influence how the phenomenon is conceptualised or how the material is gathered.

The theory-guided analysis begins with a data-based approach, as also in this study, and theory is later on brought in to guide and structure the analysis (Tuomi and Sarajärvi 2009, 98-100).

I will next describe how the analysis of the material of this study progressed. The analysis on the material began by analysing it similarly as in the data based-approach, in other words the starting point was the material itself and the themes arising from it. As Tuomi and Saarijärvi (2009, 110) describe, the data-based analysis is a process in which the material is firstly reduced, then clustered and finally abstracted. First, the aim is to identify the parts that are essential to the research question. Tuomi and Saarijärvi (2009, 111) explain that reducing the material can mean either abstracting information or dividing it into smaller parts, leaving out everything irrelevant to the study. The original expressions are analysed thoroughly for concepts expressing similarities or differences. The reduced and synonymous expressions are then combined under one category, named describing its content. As Tuomi and Saarijärvi (2009, 112-113) describe, the final step of a data-based approach is abstraction: smaller categories are combined into larger ones, also named according to their content. The aim is to conceptualise the original linguistic data into theoretical concepts and conclusions, and thus answer the study question.

Tuomi and Saarijärvi (2009, 110) point out that before beginning the analysis, the unit of analysis must be defined. The unit of analysis can be for example an individual word or a part of a clause. The material for this study is textual content and consists of different kinds of elements, such as complete sentences and various lists. For this study, choosing a suitable unit of analysis proved difficult, for the text often included expressions that were suitable for more than one class. Therefore, a unit of thought was chosen as the unit of analysis. One sentence can thus appear in several classes. Table 1 below shows how the classes and subclasses were formed:

Table 1. Forming the classes from original expressions.

Original expression	**Abstraction**	**Subclass**	**Main Class**
The benefits are improved quality by effective information delivery process, **reduced project management costs** and risks. (Company A)	Reducing project management costs	Costs	**Financial savings**
Our technical writing solutions deliver **cost-effective** content. (Company C)	Delivering cost-effective content		
Faster time to market due to leaner production processes. (Company D)	Faster time to market	Time	
Multi-channel publishing: information content can be published in many different formats. (Company E)	Different formats	Output	

As Table 1 demonstrates, the original expressions were first reduced into abstractions. The classes were then formed on the basis of these abstractions. Subclasses were linked to form main classes.

Next, I will present the main classes, which were formed on the basis of the analysis, in each subchapter. In addition to the analysis, suitable quotes from the material are provided in order to illustrate how the classification was formed.

5. Analysis of corporate websites

I will begin the analysis by explaining how the companies have named their technical documentation services. As there are several different terms that are used to refer to the field of technical communication, I made note of which terms the analysed companies use as a headline for their technical documentation services. Table 2 below shows the headlines used by the companies:

Table 2. Headlines used by the companies.

Company	**Main page headline**
Company A	Information Management
Company B	Technical Documentation
Company C	Technical Writing
Company D	Technical Documentation
Company E	Documentation and Technical Writing

As can be seen from Table 2, two of the companies use the term *Technical Documentation* (Companies B and D). Company A speaks of *Information Management* and lists *Technical Writing* and *Project Document Management* under these services. Company B also lists similar services under *Technical Documentation*, such as:

> Content creation
>
> - Information architecture
> - Document layout design
> - Proofreading
> - Technical writing
> - Terminology management
> - Translation and localization projects
> - Publication (Company B)

By listing these different services, Company B gives the customer a more detailed view of technical documentation, with a focus on the process as a whole, not just the end product. Company E is the only one to use two terms together, *Documentation* and *Technical Writing*. Johnson-Eilola (1996,

246) regards *Documentation* as the main genre under *Technical Communication*, which in turn is often used as an alternative term for *Technical Writing*, as explained in Chapter 2.1.

None of the companies use the term *Technical Communication*, which, according to Spilka (2002, 101) is widely used in the field. However, using the term *(Technical) Documentation* in this business context is logical, for the companies are referring to the service they provide (designing and producing technical documents to the customer), not to the field of technical communication in general (see Chapter 2.1). Haramundanis (1998, 2) divides technical documentation into three types: marketing materials, materials that report and instructional materials. Moreover, documentation can sometimes include for example parts lists, engineering drawings or other such specifications. A company may very likely also provide these kinds of documents, though as Haramundanis (1998, 2) states, these might more properly be called engineering documents. Nevertheless, they are all part of documentation. This kind of differentiation may also be behind Company E's division to *Documentation* (meaning engineering documents) and *Technical Writing* (other content).

The amount of information on technical documentation services varies greatly on the corporate websites. While some companies (Companies C and D) have extensive sections on technical documentation, others (Companies A and B) only have a few lines together with lists that include examples of their services. One company (Company D) has a special website for technical documentation services, which can be accessed via the documentation section on their main website.

The companies have different strategies in listing their services. Company A has placed *Information Management* in the middle on its list of services. Company B has an alphabetical order, so *Technical Documentation* is towards the end of the list, as it is with Company C. Company D mentions *Technical Documentation* on the main page. Company E has placed *Documentation* and *Technical Writing* at the beginning of its list of services.

After the analysis on terms and the amount of information, the content was analysed further. On the basis of the analysis five main classes were formed. Two of them were further divided into subclasses. The different classes and subclasses, where relevant, are presented in Table 3:

Table 3. Main classes and subclasses.

Main classes	**Subclasses**
Financial savings	Costs Time Output
Safety and standards	
Quality	Usability Textual quality Design quality
Professionalism	
Customer satisfaction	

Each class will next be discussed in more detail under a subsection.

5.1 Financial savings

All expressions related to technical documentation bringing cost savings to a company's customers were included in a class named **Financial savings**. These include both direct references to cost-effectiveness and expressions that referred to saving time. In addition, this class includes expressions that refer to re-use, for reusability often saves a company both time and money. The class was thus divided into three subclasses: Costs, Time and Output.

The subclass **Costs** includes all expressions that had references to direct cost savings. All companies except one (Company B) mention cost savings directly. As mentioned in Chapter 3.1, in many companies the general attitude is that technical communication is only viewed as a business expense. From a business perspective, investing in some service should bring either savings or further profit. Thus, it would be important to point out the savings that technical communication can bring

in order to convince the customer to use the company's services. As explained in Chapter 3.2, the value-based definition of quality combines value and quality together. One aspect of quality is that technical documentation product should satisfy the customers at a reasonable cost.

There is variation in how the companies represent the cost-effectiveness of their services. Most of the companies simply state that their services reduce costs without explaining in any detail how these savings are achieved, as the following examples demonstrate:

> Our services are **cost-effective**. (Company E)
>
> Key benefits: **Reduced cost**. (Company C)

This way cost-effectiveness is seen as something that is linked to all the services the company provides. On the other hand, it is also linked to some specific services only. One of the companies (Company A) introduces altogether 13 different services that are included in its information management services, but there are only two references to saving costs:

> The benefits are improved quality by effective information delivery process, **reduced project management costs** and risks. (Company A)
>
> Via our services, you are able to shorten the time-to-market of translations and **minimize translation costs**. (Company A)

Neither of the examples is in connection with the services of technical writing and documentation. There are, however, other examples in the data that do state the financial savings of technical documentation services specifically:

> Our technical writing solutions deliver **cost-effective content** and culturally appropriate content whenever and wherever you need it. (Company C)

However, the example above does not specify what is actually meant by cost-effective content. It could refer to a shorter manual, which saves costs if the manual is printed.

There are also examples in which the way technical documentation services bring financial savings to the customer is carefully explained:

> **Considerable cost savings** due to consistent use of texts and illustrations across multiple formats, word count reduction, streamlined documentation practices and improved quality. (Company D)
>
> Possibility to outsource the production and maintenance of technical documentation to [Company D]; **achieving further cost savings**. (Company D)

The first example above describes company practices and concrete means through which the company can reduce the costs of technical documentation. In the second example, the company states that the customer can achieve further savings by outsourcing both the production and maintenance of technical documentation to the company. To my surprise, there were no references to savings in technical support costs, even though these are mentioned in several studies (e.g. Smart et al. 1995).

Overall, there seems to be two different views on how much information (overall, with regard to costs) the potential customer might want. On one hand, it is perhaps seen as assertive and confident to only state that the services save costs. Moreover, if the customer is not familiar with technical documentation, it is of little use to go into details. On the other hand, providing more details and examples might be useful for the customer and convincing that the company knows its business.

The subclass **Time** includes all expressions that included the idea of saving the customer time. All companies except one (Company B) list ways of saving time with the help of their technical documentation services. The most commonly mentioned one is bringing the product to market faster:

> Via our services, you are able to **shorten the time-to-market of translations** and minimize translation costs. (Company A)
>
> Key benefits: **Improved speed-to market.** (Company C)

As the second example above shows, this method of saving time is listed as a key benefit, though it is not explained how these savings are achieved. It might refer to the efficiency of the company's documentation process, which also leaves the customer free to concentrate on their core business.

Another often mentioned method is flexibility. The companies explain how they can save their customer time by quickly responding to sudden workloads so that there are no delays. This kind of flexibility is mentioned by three companies (C, D and E):

> Benefits of our technical writing services: **meet variable workloads** (Company C)
>
> Increased **flexibility** in documentation capacity to accommodate peaks in work load. (Company D)

This kind of flexibility is clearly beneficial for the customer, for recruiting new experts due to a short-term need is expensive and often not even possible.

There are also other expressions related to saving time. One company (Company D) mentions that it can minimise downtime so that any repairs can be done as quickly as possible. Another way of saving time is making sure that the documentation is delivered on time:

> We ensure your documentation is **delivered on time**. (Company D)

If the customer is struggling to produce documentation on time, buying the service from a specialised company is one way of addressing the problem. Often the documentation needs to be translated and possibly delivered in multiple formats, which also takes time. The customer achieves financial savings when the documentation is delivered on time, for then the product can also be delivered on time.

All expressions related to re-use and multi-functional formats were included in a subclass named **Output**. Re-usability at a general level was mentioned by two companies (Companies A and D). In addition, there were more specific descriptions on multi-functionality, such as references to multiple formats, deliverables and languages:

> You can count on [Company B] to solve any issues you might have regarding document content and layout design, content creation, technical illustration, and the delivery of the final documents – **in all languages and formats**! (Company B)
>
> Ensures maximal reusability of the material **across multiple applications**. (Company D)
>
> Multi-channel publishing: information content can be published **in many different formats.** (Company E)

If the company can deliver the documentation in various formats and languages, the customer can make use of it more widely. Digital formats have an advantage to paper, for they can be updated and revised more easily. Moreover, they can be accessed via smartphones and tablets and can include

videos and other such content. Some of the companies mention delivering content in multiple languages, for they also offer translation services. To the customer this is an advantage, especially if the customer operates globally or in several different countries and thus needs to have the documentation produced in several languages.

Often the information gathered and produced for documentation can be edited to suit other materials. Thus, it is possible to produce multiple deliverables based on the same information:

> Publish assets to **multiple deliverables (documentation, marketing, training etc.)** and **multiple formats (paper, web, mobile etc.)**. (Company C)

As the example above shows, the information gathered for documentation can be utilised in producing other materials, such as training and marketing materials. This naturally saves the customer money, since everything does not need to be produced from scratch.

I also included document management in this subclass, for effective content management is linked to the planning and re-use of information. Document management is mentioned by some of the companies (Companies A and E). Via effective document management the customer can avoid repetition, and information content needs to be written only once. Moreover, the information can be retrieved faster and modified by different users. An efficient, faster documentation process is one way to reduce internal investments, as described in Chapter 3.1.

One aspect of multi-functionality is controlled language and structured documentation. A controlled language is a precisely defined subset of a natural language, and its vocabulary, grammar and style are standardised for a given purpose (Mogensen 2004, 243). Both controlled language and structured documentation improve the reusability of the content itself, for repetitive and consistent sections can be reused in other texts and do not need to be written again. Structured writing means basically the "practice of writing content following structured writing guidelines or models" (Rockley 2003, 350). When using structured documentation, it is possible to for example mark which parts of the content can be reused, and there are special markup languages designed for this. As mentioned in

Chapter 3.1, using a markup language and single-sourcing information is a good example of how documentation creation can reduce costs. Structured documentation is mentioned by two companies (Companies D and E):

> To improve **reusability**: repetitive, consistent sections can be reused in several other texts. (Company E)

In addition, Company E points out that structured documentation reduces translation costs:

> Simplified translation: **only the updated part of the documentation needs to be translated.** (Company E)

As Mogesen (2004, 248-249) states, structured documentation is increasing, and it can be seen as a modern tool in technical documentation. It is therefore perhaps a little surprising that the other companies do not mention it, as the use of modern documentation tools to potential customers might act as a good marketing point. However, since the scale of customers (and their knowledge of documentation) is very wide, it is possible that introducing such specific tools might be of little importance, if the customers do not even have any idea what they are.

5.2 Safety and standards

This class includes all expressions related to meeting standards and regulations or improving safety. Again, all other companies except one (Company B) have some references to safety or standards, but there is great variation among the companies. Three companies state that their documentation is standardised, but it is unclear to me what is actually meant by this. Especially puzzling is this reference to universal standards:

> Our methods and tooling are **based on universal documentation standards** to create efficiency and independency. (Company D)

Even though there are standards such as ISO standards, that need to be considered when producing technical documentation products for many industries, no universal documentation standards exist. The company might refer to some kind of list of attributes linked with good quality technical

documentation. In either case, I am not entirely sure how these are connected to efficiency and independency.

As mentioned previously in Chapter 2.2, there are safety requirements and EU directives that should be taken into consideration when providing technical documentation content. The potential customers can be assumed to be aware of the regulations regarding their own businesses. It is therefore slightly surprising that only one company mentions these:

> Meets and exceeds **the highest regulatory and safety requirements, including EU (CE) Directives, FDA and contractual regulations**. (Company D)
>
> [Company D] can assist you with your technical publication **meeting specific requirements, including S1000D, ASD-STE100 (Simplified Technical English), MIL SPEC, PVE800001, PVE800002 (electronic) & PVE800003 and AQAP 2130 Quality Regulation**. (Company D)

By pointing out that it is aware of the specific standards and regulations required, the company demonstrates that it takes safety very seriously. An oversight in this area could not only cost the customer huge sums of money but also damage or even destroy its brand and image. Moreover, the company may also wish to show its expertise in some specific service areas, especially since the company also offers engineering services.

5.3 Quality

This class includes all expressions that describe the quality of technical documentation services. All companies have content that refers to the quality of their services. High quality is mentioned directly by all other companies except one (Company A). Here are some examples of the phrases used when referring to quality at a general level:

> **first-rate** technical communication content (Company B)
>
> **top class** technical documentation (Company D)
>
> our clients always benefit from the **best possible** documentation quality (Company E)

Not surprisingly, companies are eager to convince that they offer a high-quality service. This is connected to transcendent quality (see Chapter 3.2), for the companies may view their own services to be better than those of a competitor, even if this is a rather subjective and unreliable view. The companies also describe the quality of their technical documentation services in more detail. There are several different ways that are used to describe high-quality technical communication, and these are next discussed under each subclass.

I have placed usability and user-friendliness together in the subclass **Usability**, for they are close terms and there were only a few expressions related to these. User-based quality was described in Chapter 3.2, and it was stated that it focuses on the needs and expectations of the user. The expressions related to usability thus fall under this category of quality. All companies have content related to usability, but only two companies directly mention producing user-friendly content:

> We guarantee that your company's documentation is always clearly expressed, **user friendly** and up-to-date. (Company B)
>
> Improved user experience due to compelling and **user-friendly** technical content. (Company D)

The other companies point out the significance of usability from the customer's perspective by stating that the documentation is adapted and received more readily by the end-users:

> Benefits of our technical writing services: **Accelerate user adoption**. (Company C)
>
> Ensures **correct reception and usage**. (Company E)
>
> Through high quality technical illustrations, you strengthen your brand image, and **allow your customer to assimilate the information more readily**. (Company A)

The examples above point out that good quality documentation is easy for the users to adopt and understand. Interestingly, Company A lists this kind of effective user adoption under *Technical Illustrations* instead of *Technical Writing*. This highlights the importance of pictures and graphs in technical publications, though easy adoption is also much dependent on the textual quality of documentation, which is discussed next.

The subclass **Textual quality** includes all expressions related to textual quality in the data, which are versatile and multiple. These expressions are adjectives describing the actual textual content, and companies do seem to have similar ideas about the attributes that are linked with good quality technical documentation. There are several expressions related to the language used in technical documentation:

> We guarantee that your company's documentation is always **clearly expressed**. (Company B)

These examples reflect the idea that the language used in technical communication products has some special features, and these features are important when producing good quality content. Company E uses the adjective *instructive*. Company A also mentions features such as *conciseness*, *consistency* and *accuracy*:

> Improved product safety due to **clear**, **concise** and **unambiguous content** in technical materials. (Company D)
>
> The target is to help the customer to get their documentation **accurate**, **concise**, **consistent**, reusable and standardized. (Company A)

All these features are typical for high-quality technical communication. For instance, Haramundanis (1998, 4) states that a document should be accurate: it should not contain factual errors or misstatements, for they will confuse the reader. Haramundanis (1998, 7) continues that the language should be concise, which means that communication should be brief, verbiage should be avoided and all words that do not add information to the text should be left out. Moreover, since technical documents are often instructions, the language used should be instructive.

Company D lists *reliability* in a section related to technical documentation services for healthcare, which actually makes a good point about how important is to make sure content is correct and accurate and the facts are correct: in a real-life situation, it might be a question of life and death. In Chapter 3.2, reliability is listed as one of the features measuring product-based quality, and I would

place the other features mentioned by the companies also either under product-based quality, which measures the usability and accessibility of a technical documentation product.

The subclass **Design quality** includes expressions related to the design and layout of the technical communication product. As mentioned in Chapter 3.2, design-based quality, whether internal or external, is one aspect of quality in technical communication, and it describes how well a technical documentation product conforms to design specifications. There are three companies (Companies C, D and E) that mention design. They point out that an effective and appealing design is important and affects the quality of the information product. It is also pointed out that technical communication is not just writing, and other media content can add value to the documentation:

> **Engaging technical media content** for technical documentation. (Company E)

Pictures and other media that catch the user's attention are important, for as Schriver (1997, 164−165) points out, people prefer not to read unless they have to. Other than textual content thus often functions as a focal point. However, the interplay of texts and images is not always straightforward. According to Fortune (2002, 105), it is problematic if the people who create documents do not understand how words and images work alone and together. By stating the importance of good visual design, the companies point out that it is an important part of documentation and that it should be carefully considered and planned.

5.4 Professionalism

This class includes expressions related to the expertise of the companies, the staff and the methods or tools the companies have in use. Only one company (Company C) states that it has a long experience in technical documentation. Expertise in general is more commonly mentioned:

> [Company D] has **substantial expertise** to help customers continuously improve the equipment design process. (Company D)

In addition to the company's expertise, the expertise of the employees is also mentioned by some of the companies (C, D and E). For example, Company D points out that its staff is not only experienced but also trained to the profession:

> **Trained and experienced documentation specialists** apply these standards with the correct systems in place. (Company D).

Documentation methods and tools are also brought into the attention of potential customers. The companies that mention the specific methods and tools are the same ones that mention the use of structured documentation (Chapter 5.1). If the customer has so far produced the documentation in-house, it is possible that the tools and methods used by the staff are not the best possible. Moreover, it might not be possible to invest in more modern tools or the training of the staff. Thus, it might be an advantage to use a company specialised in technical documentation to produce the documentation, for then the customer would also get the benefits of modern tools. The following examples show how companies discuss their tools and methods:

> We excel in **advanced documentation methods** which bring tangible benefits to our customers. (Company D)
>
> **Our info analysis** will give you a clear picture of your company's documentation environment. (Company E)

In the first example above, Company D mentions having advanced documentation methods. More specifically, the company offers different software for documentation, content management and content checking. The company has given these tools specific names, and these can be considered advanced tools. In the second example above, Company E mentions info analysis, which they can use to analyse both the customer's current documentation environment and the possible development targets and wishes of the customer. The company is thus able to produce documentation with content and output that is required by the customer.

5.5 Customer satisfaction

All expressions related to the customer's brand and image and the overall satisfaction of the customer were placed in the class **Customer satisfaction**. Some of the companies highlight that they can take care of the customer's documentation completely, and the customer does not need to worry about it:

> You can count on [Company B] to **solve any issues you might have** regarding document content and layout design, content creation, technical illustration, and the delivery of the final documents. (Company B)
>
> **We unburden you so you don't have to worry about technical documentation any more**. (Company D)

By using such arguments, the companies may wish to convince customers who are having problems in producing the documentation they require. As previously pointed out, it is possible that customers do not have deep expertise in documentation, and thus it could be a good solution to outsource the service. In addition, the companies also wanted to point out that their services can be tailored to meet the unique needs of the customer:

> Our services are cost-effective and **tailored to meet the client's needs precisely.** (Company E)
>
> Our services can always be **customized to meet the unique needs of your company**. (Company B)

As the companies offer their services to several different industries and their customers may include both small and large businesses, they may see it as important to be able to cater to different needs, so accommodating services to the customer's needs is vital if the company wishes to have the widest possible clientele. The companies also point out that their products can be made to fit a specific layout or design preferred by the customer.

As explained in Chapter 3.2, this kind of customer satisfaction is not included in the user-based definition of quality, for here the customer is not the user of the product. As the examples in this Chapter show, however, customers may have specific needs, and to deliver a quality product means fulfilling these customer needs. Moreover, the customers may expect that part of a quality service is

that they can trust the other company to completely take care of everything related to technical documentation.

6. Conclusions

In this thesis I have studied the ways in which companies present the value and benefits of their technical documentation services to their customers. My hypothesis was that the companies wish to show the value and benefits of professional technical documentation. This would reflect the discussion in the field of technical communication and help the industry to establish its professional status. The hypothesis proved partly true. Many kinds of benefits are listed on the corporate websites. In addition to financial savings, the companies state the importance of safety and standards, quality, professionalism and customer satisfaction. However, to my surprise the companies only marketed the cost-effectiveness of their services and not the possibility of profit to the customer. Though adding financial value is considered a key element in improving the status of technical communication in a business environment, it does not come up on the websites, contrary to my hypothesis. Moreover, the companies offer very few concrete examples of the exact ways of saving money.

The analysis shows that the amount of information on technical documentation services varies greatly on the corporate websites. While some companies have only a few lines of information, others describe the possibilities of their technical documentation services more extensively and offer information for different industries. The variation in the amount of information may reflect the importance of technical documentation services to the company in general: businesswise, documentation may not be as significant to the company as their other services. Nevertheless, since the field of technical communication is not very well known to the general public, customers may not be familiar with all the possibilities it offers. Some companies with very little information might thus benefit from describing their documentation services more extensively.

The companies use different terms when referring to technical documentation and the services listed under it. This reflects the overall situation of the field of technical communication, for several terms have been used for the field, as was described in Chapter 2.1. The companies prefer the term *documentation* to *technical communication*, which is logical, for they are describing the service they

provide, not referring to the field in general. On the other hand, the companies also list translation services under their technical documentation services, though they are two different fields of expertise. To the customer, however, these two services may very well belong to the same package, if their documentation also needs to be translated and localised.

In addition to mentioning their general expertise, the companies wish to highlight that they have professional, trained staff. This is significant from the perspective of the status of technical communication, for it gives credit to professionals who have the specific skills needed to do this job. The companies also mention the importance of quality and give several examples of attributes connected with high quality technical documentation. These attributes are related to both the textual content and the layout of the communication product. Moreover, user-friendliness and easy adoption are also brought to the customer's attention. To put it simply, the companies point out that there is a quality aspect to technical documentation and that they have the expertise to deliver this quality to their customers.

Only two companies point out that they have specialised methods and tools in use. As stated in Chapter 5.1, structural documentation is mentioned by two companies, and the same companies also present their advanced methods and tools. One of the companies has created advanced software for documentation, content management and content checking and given these tools specific names, as mentioned in Chapter 5.4. Documentation tools are very possibly not familiar to the customers, which might be the reason they are not presented very prominently. On the other hand, I perhaps expected some more general notes of using state-of-the art technology.

The qualitative content analysis proved to be a suitable method for the study, for the results of my analysis provide answers to my study questions. The purpose was to study the phenomenon in general, not individual companies. As the analysis shows, the material provided clear themes that connect to the theoretical framework. However, in some cases it was difficult to decide which content to include in the material. Some themes overlapped, which occasionally made it challenging to

classify the results. Some expressions could have been placed in more than one category. Moreover, it must be kept in mind that in the end this study is my personal interpretation of the material. However, although the results of the study cannot be generalised, the study provides a good view on the value and benefits of technical documentation expressed by the most significant operators in the field of technical communication in Finland, at the same time, of course, it must be kept in mind that the entrepreneurial environment is constantly changing, and new operators will surely emerge in future.

A further challenge of a study using web-based content is that the content is constantly changing. Some of the websites in this study have already been updated completely, and the content has changed. If this study were conducted now, the results would very likely be different to those presented in this thesis. In fact, a possible topic for further research might be a longitudinal study of the same topic. The field of technical communication is constantly developing, and it would be intriguing to see what kind of results an analysis such as this would yield two or five years from now. Another possible topic for further research might be the customers' perspective: how the customers of the companies understand such terms as technical documentation and what their knowledge of the field is. Moreover, one could study how the customers view the usefulness of the information provided for them on the corporate websites, and whether they would wish for more details or clarifications. Since analysing the competence of target audiences and the usability and accessibility of information is important in technical communication, it would be interesting to know how the content written for the customers serves them.

References

Abdallah, K., Haanpää, T., Hill, N., Ilveskallio, S., Orispää, K. and Tytti Suojanen. 2005 "Technical Documentation in Finland." In *Technical Communication – international. Today and in the Future*. ed. Jörg Henning and Marita Tjarks-Sobhani, 77-89. Lübeck: Schmidt-Römhild.

Ammattinetti 2017. Ammattialat. Available from http://www.ammattinetti.fi/ammattialat [Accessed 6 August 2017]

Byrne, J. 2006. *Technical Translation: Usability Strategies for Translating Technical Documentation.* Dordrecht: Springer Science & Business Media.

Carliner, S. 2003. "A Critical Look at Professional Organizations in Technical Communication." In *Power and Legitimacy in Technical Communication: The Historical and Contemporary Struggle for Professional Status. Vol I*. ed. Teresa Kynell-Hunt and Gerald J. Savage, 71-99. Amityville: Baywood Publishing Company.

Carliner, S. 2012. "The three approaches to professionalization in technical communication." *Technical Communication* 59, 1: 49-65.

Fisk, A. 2005. "Technical Documentation in the United Kingdom." In *Technical Communication – international. Today and in the Future*. ed. Jörg Henning and Marita Tjarks-Sobhani, 90-105. Lübeck: Schmidt-Römhild.

Flacke, M-L. 2005. "Technical Documentation in France." In *Technical Communication – international. Today and in the Future*. ed. Jörg Henning and Marita Tjarks-Sobhani, 36-50. Lübeck: Schmidt-Römhild.

Fortune, R. 2002. "Image, Word, and Future Text. Visual and Verbal Thinking in Writing Instruction." In *Working with Words and Images. New Steps in an Old Dance*. ed. Nancy Allen, 97−115. Westport, Connecticut/London: Ablex Publishing.

FTCS 2017a. Finnish Technical Communications Society. Available from http://www.stvy.fi/?lang=en [Accessed 5 August 2017]

FTCS 2017b. Technical Communication. Available from https://www.stvy.fi/technical-communication/?lang=en [Accessed 5 August 2017]

Haramundanis, K. 1998. *The Art of Technical Documentation*. Woburn: Butterworth-Heinemann.

Henning, T. and Amanda Bemer. 2016. "Reconsidering Power and Legitimacy in Technical Communication: A Case for Enlarging the Definition of Technical Communicator." *Journal of Technical Writing and Communication* 46, 3: 311-341

ISO 2018. Standards. Available from https://www.iso.org/standards.html [Accessed 20 March 2018]

ISTC 2015. Value of Technical Communication. Available from http://www.istc.org.uk/value-of-technical-communication/ [Accessed 20 July 2017]

Johnson-Eilola, J. 1996. “Relocating the Value of Work: Technical Communication in a Post-Industrial Age.” *Technical Communication Quarterly* 5, 3: 245-270.

Kim, I. and Jasna Kuljis. 2010. “Applying Content Analysis to Web-based Content.” *Journal of Computing and Information Technology* 18, 4: 369-375. Available from https://doi.org/10.2498/cit.1001924 [Accessed 23 March 2018]

Kimball, M.A. 2016. “The Golden Age of Technical Communication.” *Journal of Technical Writing and Communication* 47, 3: 1-29.

Korhonen, J. 2007. *Teknisen viestijän ammatti-identiteetti ja teknisen viestinnän professiostatus Suomessa*. University of Tampere, Master’s thesis. Available from http://urn.fi/urn:nbn:fi:uta-1-17118. [Accessed 6 August 2017]

Kynell-Hunt, T. 2003. “Status and the Technical Communicator: Utilitarianism, Prestige, and the Role of Academia in Creating our Profession.” In *Power and Legitimacy in Technical Communication: The Historical and Contemporary Struggle for Professional Status. Vol I*. ed. Teresa Kynell-Hunt and Gerald J. Savage, 53-67. Amityville: Baywood Publishing Company.

Kynell-Hunt, T. and Gerald J. Savage (eds.). 2003. *Power and Legitimacy in Technical Communication: The Historical and Contemporary Struggle for Professional Status. Vol I*. Amityville: Baywood Publishing Company.

Kynell-Hunt, T. and Gerald J. Savage (eds.). 2004. *Power and Legitimacy in Technical Communication: Strategies for Professional Status. Vol II*. Amityville: Baywood Publishing Company.

Mead, J. 1998. “Measuring the value added by technical documentation: A review of research and practice.” *Technical Communication* 45, 3: 353-379.

Mogesen, E. 2004. “Controlled Language.” *Perspectives* 12, 4: 245-255.

OED 2018. s.v. “*professionalism, n.*”, def. 2. *OED Online*, Oxford University Press. Available from www.oed.com/view/Entry/152054. [Accessed 16 February 2018]

OED 2017. s.v. “*status, n.*”, def. 3b. 2017. *OED Online,* Oxford University Press. Available from www.oed.com/view/Entry/189355. [Accessed 16 May 2017]

Opintopolku 2017. Available from http://www.opintopolku.fi [Accessed 6 August 2017]

Redish, J. 2003. “Adding Value as a Professional Technical Communicator.” *Technical Communication* 50, 4: 505-518.

Reilly, A. 1993. “Professional recognition and respect through quality.” *Technical Communication* 40, 2: 231-233.

Rice-Bailey, T. 2016. “The Role and Value of Technical Communicators: Technical Communicators and Subject Matter Experts Weigh In.” *Technical Communication Quarterly* 25, 4: 230-243.

Ring, P. 2005. “Technical Documentation in Denmark.” In *Technical Communication – international. Today and in the Future*. ed. Jörg Henning and Marita Tjarks-Sobhani, 51-64. Lübeck: Schmidt-Römhild.

Risku, H. 2004. “Migrating from translation to technical communication and usability.” In *Claims, Changes and Challenges in Translation Studies. Selected contributions from the EST Congress, Copenhagen 2001.* ed. Gyde Hansen, Kirsten Malmkjær and Daniel Gile, 181-195. Amsterdam/Philadelphia: John Benjamins.

Rockley, A. 2001. “The Impact of Single Sourcing and Technology.” *Technical Communication* 48, 2: 189-193.

Rude, C. 2009. “Mapping the Research Questions in Technical Communication.” *Journal of Business & Technical Communication* 23, 2: 174-215.

Savage, G. 1999. “The Process and Prospects for Professionalizing Technical Communication.” In *Power and Legitimacy in Technical Communication: The Historical and Contemporary Struggle for Professional Status. Vol I*. ed. Teresa Kynell-Hunt and Gerald J. Savage, 137-165. Amityville: Baywood Publishing Company.

Savage, G. 2003. “Toward Professional Status in Technical Communication.” In *Power and Legitimacy in Technical Communication: The Historical and Contemporary Struggle for Professional Status. Vol I*. ed. Teresa Kynell-Hunt and Gerald J. Savage, 1-12. Amityville: Baywood Publishing Company.

Slaughter, G. 2009. “Measuring the Value of Technical Communication in Economic Terms.” *Intercom* 56: 12-14.

Spilka, R. 2000. “The Issue of Quality in Professional Documentation: How Can Academia Make More of a Difference?” *Technical Communication Quarterly* 9, 2: 207-220

Spilka, R. 2002. “Becoming a profession.” In *Reshaping Technical Communication: New Directions and Challenges for the 21st Century*. ed. Barbara Mirel and Rachel Spilka, 97-109. London: Routledge.

Smart, K. et al. 1995 “Defining Quality in Technical Communication: A Holistic Approach.” In *Technical Communication* 42, 3: 474-481.

St. Amant, K. and Lisa Meloncon. 2016. “Addressing the Incommensurable: A Research-Based Perspective for Considering Issues of Power and Legitimacy in the Field.” *Journal of Technical Writing and Communication* 46, 3: 267-283.

Statistics Finland 2010. “Classification of Occupations.” Available from https://www.tilastokeskus.fi/meta/luokitukset/ammatti/001-2010/index_en.html [Accessed 4 August 2017]

STC 2017a. Certification. Available from https://www.stc.org/certification/ [Accessed 1 June 2017]

STC 2017b. Defining Technical Communication. Available from https://www.stc.org/about-stc/defining-technical-communication [Accessed 29 May 2017]

Sullivan, D.L., Martin, M.S. and Ember R. Anderson. 2003. "Moving from the Periphery: Conceptions of Ethos, Reputation, and Identity for the Technical Communicator." In *Power and Legitimacy in Technical Communication: The Historical and Contemporary Struggle for Professional Status. Vol I*. ed. Teresa Kynell-Hunt and Gerald J. Savage, 115-136. Amityville: Baywood Publishing Company.

Suojanen, T. 2000. *Technical Communication Research: Dissemination, Reception, Utilization.* University of Tampere, Licentiate thesis. Available from http://urn.fi/urn:nbn:fi:uta-1-8678. [Accessed 16 February 2018]

Suojanen, T. 2010. "Comparing Translation and Technical Communication: A Holistic Approach." In *Translators' Agency.* ed. Tuija Kinnunen and Kaisa Koskinen, 47-60. Tampere Studies in Language, Translation and Culture, Series B 4. Tampere: Tampere University Press.

TecCOM Frame 2017. About TecCOM Frame. Available from http://www.teccom-frame.eu/about/ [accessed 29 May 2017]

Tekom Europe 2018. Defining Technical Communication. Available from http://www.technical-communication.org/technical-communication/defining-technical-communication.html [Accessed 16 February 2018]

TE-palvelut 2017. Avoimet työpaikat. Available from https://paikat.te-palvelut.fi/tpt/?lang=fi [Accessed 5 August 2017]

Tukes 2013. Machines designed for use by consumers. Available from: http://www.tukes.fi/en/Branches/consumer-safety/Consumer-goods/Safety-requirements-for-products-/Personal-protective-equipment1/ [Accessed 7 June 2017]

U. S. Department of Labor, Bureau of Labor Statistics, 2012, July 11. Technical Writers. *Occupational Outlook Handbook.* Available from https://www.bls.gov/ooh/media-and-communication/technical-writers.htm [Accessed 29 May 2017]

UVA 2017. Communication Studies. Available from http://www.uva.fi/en/about/organisation/faculties/communication_studies/ [Accessed 13 January 2018]

Valtioneuvoston asetus kulutustavaroista ja kuluttajapalveluksista annettavista tiedoista 613/2004. Enacted 1 January 2005. Available from https://www.finlex.fi/fi/laki/ajantasa/2004/20040613 [Accessed 20 March 2018]

Virtaluoto, J. 2015. *Technical Communication as an Activity System: A Practitioner's Perspective.* Acta Universitatis Ouluensis. B, Humaniora 130. Oulu: University of Oulu.

Virtaluoto, J., Lähteenmäki, T. and Pekka Pietikäinen. 2015. "Teknisen viestinnän nykytila Suomessa –kyselyn tuloksia." In Seminar of the Finnish Technical Communications Society 19-20 October 2015, University of Tampere.

Ward, C. 2015. "Establishing a business-oriented documentation workflow." *TC World* October 2015. Available from http://www.tcworld.info/e-magazine/technical-communication/article/establishing-a-business-oriented-documentation-workflow/ [Accessed 1 July 2017]

Williams, S. 2010. “Interpretive Discourse and Other Models from Communication Studies: Expanding the Values of Technical Communication.” *Journal of Technical Writing and Communication* 40, 4: 429-446.

Appendix A

Company A: Citec. Available from
http://www.citec.fi/en-US/Services/Information_Management [Accessed 15 April 2017]

Company B: Alten Finland. Available from
http://www.alten.fi/en/what-we-do/service-areas/technical-documentation
[Accessed 15 April 2017]

Company C: Lionbridge. Available from
http://www.lionbridge.com/solutions/technical-writing [Accessed 15 April 2017]

Company D: Etteplan. Available from http://www.etteplan.com/expertise/technical-documentation
[Accessed 16 April 2017]

Company E: Multidoc. Available from
http://www.multidoc.fi/en/services/documentation-and-technical-writing
[Accessed 16 April 2017]